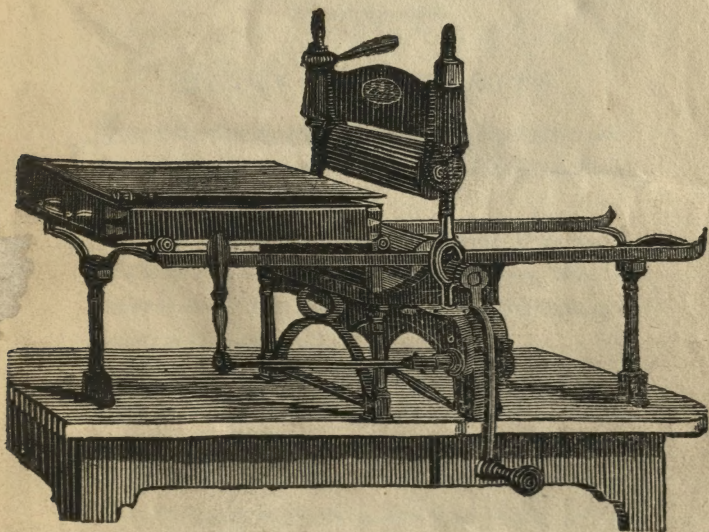


6

A
SHORT ACCOUNT
OF
LITHOGRAPHY,
OR THE
ART OF PRINTING FROM STONE,
WITH A DESCRIPTION OF
RUTHVEN'S
Patent Lithographic Press.



EDINBURGH :

PRINTED BY J. RUTHVEN & SONS.

AND PUBLISHED BY PETER HILL & CO. HIGH STREET;
JAMES ROBERTSON, PARLIAMENT SQUARE; FRANCIS
CAMERON, BANK STREET; AND D. BROWN,
ST. ANDREW STREET.

Price Sixpence.

~~~~~  
1820.



A  
SHORT ACCOUNT  
OF  
LITHOGRAPHY,  
&c.

---

HISTORY OF LITHOGRAPHY.

THE following general outline of the origin and nature of this new Art appeared in a late number of the Edinburgh Evening Courant :

“ A new method of Printing, differing in its principles from all other methods hitherto known, was discovered about the year 1800, by ALOIS SENEFFELDER, a native of Germany.

“ This art was kept secret till within a year or two back, when it could no longer be concealed ; and although, from its infant state, all its value to mankind cannot be appreciated, yet, from the successful applications already made, to a variety of useful and important purposes, it now attracts universal attention throughout Europe. It has been called LITHOGRAPHY—a term which rather misleads our conceptions of this simple and elegant art, conveying the idea of engraving or cutting *on* stone.



“ The following brief sketch of the nature and process of this singularly interesting art will serve to correct such misapprehension, and may prove acceptable to such persons as possess little information on the subject :—

“ Lithography is the art of taking impressions, most perfect fac-similes, of drawings, writings, &c. from calcareous stone ; either by drawing directly on the surface of the stone, with a prepared ink or chalk, or by drawing on a prepared paper the figure, which may be transferred to the stone by pressure. A strong chemical affinity exists between the stone and the ink, or chalk, used in the writing, or drawing, so that it fixes on the stone, sinking a little under, and rising a little above the surface of the stone, exhibiting to the eye the identical lines, and entire conformation of the original drawing, or writing, and so as to be capable of yielding *innumerable* impressions, each possessing all the truth and spirit of the original.

“ Cold water is then applied to the stone, which rests upon the whole surface, except on the lines of the writing or drawing, which repel the water. A roller is now passed over the stone, charged with printing ink, which being of a greasy nature, is resisted by the wet parts, and adheres only to the lines of the drawing, for which it has an affinity. The impression is then taken by applying paper to the stone, and passing it through the press.

“ When the number of impressions wanted are taken, the stone is rubbed with pumice stone, and cleaned, to receive any other drawing or writing, &c.

“ It thus appears, that whilst all other methods of printing and engraving rest upon mechanical, Lithography depends chiefly on *chemical* principles.

“ By this curious and simple art, there are now produced with inconceivable facility, from one stone, very excellent imitations of the best works of the pen, the pencil, and the graver.

“ In Paris, lately, 120,000 lithographic impressions were taken from one drawing, the last as good as the first.

“ Any person may be initiated in the mysteries of stone-printing, the most useful and valuable applications of which are now invitingly placed within the reach of all classes, and are so exceedingly easy, that they may be accomplished perfectly by any person of ordinary capacity, with very little time, and less labour, than can be imagined by those who have never seen the process.

“ It is obvious that such an art must soon spread through the world. What effects it may produce upon the character and condition of mankind, in countries which have been hitherto shut out from the sources of knowledge, and the advantages arising from the Fine Arts, would form an interesting subject of speculation.

“ At present, it may be sufficient to have given a general outline of this very valuable discovery, which already attracts a great portion of public attention.”



## UTILITY OF LITHOGRAPHY.

M. SENEFELDER, in his Work upon Lithography, p. 256, observes, " In pen, or chalk-drawings, all the lines and points which are to take ink, and be printed, are drawn with a greasy matter on the stone itself.— But there is another manner in Lithography where the drawing or writing with the same unctuous composition is made on paper, and is transferred from thence by artificial dissolution to the stone, and printed from it. This manner is peculiar to the chemical printing, and I am strongly inclined to believe, that it is the principal and most important part of my discovery. In order to multiply copies of your ideas by printing, it is no longer necessary to learn to write in an inverted manner: but every person who, with common ink, can write on paper, may do the same with chemical ink, and by the transfer of his writing to the stone, it can be multiplied *ad infinitum*. At Munich, at Paris, and St. Petersburg, this manner is already used in the government offices. All resolutions, edicts, orders, &c., agreed to in the cabinet meetings, are written down on paper by the secretary with chemical ink; in the space of an hour fifty impressions may be had and distributed at pleasure. For circulars, and in general all such orders of government as must be rapidly distributed, an invention like this is of the utmost consequence; and I

am convinced that, before ten years shall elapse, all the European governments will be possessed of a lithographical establishment for transferring writing to the stone. In time of war, this method is of the greatest use for the general staff of the army; it supplies entirely the want of a field printing-office, and admits of greater despatch and secrecy. The commanding officer may write his orders with his own hand, and in his presence a number of impressions may be taken from them by a person who can neither read nor write; or by placing the stone in such a manner that the reverse is turned towards the printer, he may be prevented from reading any thing. If plans of military positions or topographical sketches must be given, the engineer has only to draw them on paper, and in a short space of time all the general officers may be supplied with them. In commerce and trade the transfer manner will, ere long, be generally introduced, especially in great commercial houses, where it often happens that a quick and accurate multiplication of price-lists, letters, and accounts, is of the utmost importance. Men of letters, and authors, may, by means of it, multiply, in a cheap and easy manner, their manuscripts, which they are often obliged to transcribe with great pain and trouble to themselves. Music-printing will, by the introduction of this manner, receive new life, as the expenses of engraving will be very greatly reduced. In all countries, where type-printing is not yet introduced and type-foundries are

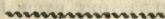


unknown, the transfer-manner will obtain the preference ; and even in European printing-offices, where a number of books in the oriental languages are printed, in those of the Bible societies for instance, it will be found highly advantageous. It will be of the utmost benefit to artists, by enabling them to obtain fac-similes of their drawings. From the most sincere conviction of its utility, and not any motive of vanity, I have thus detailed, in a brief manner, the various advantages of transfer-printing ; it would indeed be an easy matter, by expatiating on these advantages, to fill a whole book. I wish from the bottom of my heart to gain friends to this manner, and to point out the various important purposes to which it may be applied."

On this subject also, Mr ACKERMANN, in the advertisement of his translation into English of SENE-FELDER's work, observes, that, " By means of Lithography, the painter, the sculptor, and the architect, are enabled to hand down to posterity as many fac-similes of their original sketches as they please. What a wide and beneficial field is here opened to the living artist, and to future generations ! The collector is enabled to multiply his originals, and the amateur the fruits of his leisure hours. The portrait painter can gratify his patron by supplying him with as many copies as he wishes to have of a successful likeness. Men in office can obtain copies of the most important despatches or documents, without a moment's delay, and without



the necessity of confiding in the fidelity of secretaries or clerks : the merchant, and the man of business, to whom time is often of the most vital importance, can in an instant preserve what copies they may want of their accounts or tables. In short, there is scarcely any department of art or business in which Lithography will not be found of the most extensive utility."



### PROGRESS OF LITHOGRAPHY.

M. SENEFELDER, in his work, published in 1819, states as follows, p. 84. "I am proud to see that, even in its present shape, Lithography is known and exercised in a great part of the civilized world. In England and France it was first introduced by Mr ANDRE, and it has lately been revived in London by Mr. R. ACKERMANN, of the Strand, and in Paris by COUNT LASTEYRIE, both of whom have employed it in various publications. At Berlin, Mr VON REICHE opened a Lithographic establishment upon a large scale ; at St. Petersburg, it was practised several years ago, and at present it is more particularly cultivated by Baron SCHILLING. Even in Philadelphia, and, what is still more astonishing, in Astrakan, Lithography is already introduced, and, as I understand, is in a flourishing state.

“ God grant that it may soon spread all over the world ; that it may prove useful to mankind, and contribute to its improvement ; and that it may never be abused to any dishonourable or wicked purpose, and I shall then never cease to bless the hour in which I invented it !”

This simple and invaluable Art is now making its way throughout all the European states, with a rapidity and to an extent surpassing even the most sanguine hopes of its honoured and worthy founder, who has been no less distinguished by his genius in the invention, than by the perseverance and liberality he has always manifested in spreading a knowledge of his discovery ; in opposition to the example of too many narrow-minded Artists on the Continent, who, from self-interested motives, have been attempting, though in vain, to confine the knowledge of this new Art to their own cells.

In London alone, upwards of thirty Lithographic establishments are now at work, and similar institutions, we learn, are now forming in Liverpool, Manchester, and the principal cities throughout England.

In the month of January last, a number of the most respectable inhabitants, Ladies and Gentlemen of Edinburgh, associated themselves under a subscription, “ *For introducing and improving the Art of Lithography in Scotland,*” of whom the following members were appointed as a Committee :



## COMMITTEE :

THE EARL OF WEMYSS AND MARCH, F. R. S. E.  
 SIR GEORGE S. MACKENZIE, BART. V. P. R. S. E.  
 JOHN CLERK OF ELDIN, ESQ. F. R. S. E.  
 WILLIAM CLERK, ESQ. ADVOCATE.  
 GILBERT LAING MEASON, ESQ. F. R. S. E.  
 JAMES SKENE, ESQ. F. R. S. E.  
 JOHN A. MURRAY, ESQ. ADVOCATE.  
 GEORGE FORBES, ESQ. F. R. S. E.  
 JAMES PILLANS, ESQ. F. R. S. E.  
 DAVID BREWSTER, L. L. D. SEC. R. S. E.  
 LEONARD HORNER, ESQ. F. R. S. E.  
 AND<sup>w</sup> WILSON, ESQ. OF THE TRUSTEES' DRAWING  
 ACADEMY.  
 H. W. WILLIAMS, ESQ.  
 MR. WILLIAM LIZARS, ENGRAVER.  
 MR. JOHN RUTHVEN, PRINTER.

Since the formation of this Society, public establishments for Lithographic printing have been set a-going in Edinburgh.

It is known that the chief obstacle to the progress of Lithography has been the want of a suitable *Press*, which should combine in perfection the requisite properties of power, accuracy, despatch, and ease, in the execution. Upon this subject M. SENEFELDER observes, that "no Press has yet been invented, which is not far from the perfection that might be wished for;" and again, that "he deems this one of the most essential imperfections of Lithography." He adds, p. 184,

“ A perfect Lithographic Press must possess the following qualities :—1. It must not alter the position of the paper, or distort it when in the act of printing.—2. It must press uniformly upon all parts of the stone, and, consequently, give impressions free from all defects. 3. The Press must be strong enough to give sufficient pressure.—4. With this quality, it must also have the greatest possible quickness and expedition; and, 5. Be easily worked, so as not to fatigue the printers too much. All these qualities, I venture to say, have not yet been found united in any one Press; and we were satisfied with approximating, in some instances, according to the different sorts of work, to something like perfection. I make no doubt, however, that in the course of time this obstacle will be removed likewise, when Lithography, from the rapidity of its progressive improvement, shall be honoured with the attention of the most skilful mechanics, who, however, if they wish to produce any thing distinguished, must first begin to study the technical part of Lithography.”

The lovers of this Art will be gratified to learn, that a Press, answering to the above description, has lately been constructed by Mr JOHN RUTHVEN, Edinburgh, which possesses the advantage of being not only suitable for the Lithographic printer, but also, in their *portable* sizes, are particularly adapted for ARTISTS, AMATEURS, MERCHANTS, BANKERS, SOLICITORS, SURVEYORS, and others, many of whom, we have the



pleasure of adding, are already employing these Presses, to a variety of most useful and interesting purposes, in their respective departments.

Several of the first *Type Printers* in this country have added these Presses to their establishments lately, and apply them successfully, in printing circular letters, price-lists, bill-heads, cards of orders, maps, plans of estates, &c. &c. ; they are now also adopted by the most respectable Lithographic establishments in London, from one of whom the following testimonial has been given :

(COPY.)

*“ Quarter-Master-General’s Office,  
Horse Guards, Sept. 16th, 1820.*

“ DEAR SIR,

“ I have much pleasure in stating, that the Lithographic Press made by RUTHVEN, and furnished by you, for the use of the Lithographic department attached to this office, far exceeds my most sanguine expectations. I am decidedly of opinion that it is the best and most complete Press hitherto made, and that it possesses all those important qualities so requisite in a Lithographic Press, enumerated by the father of Lithography, in his ‘ Complete Course.’

“ Having devoted several years to the practical part of Lithography, during which time I have had no

less than five different Presses, on various constructions, my opinion of the vast superiority of RUTHVEN's Press is the result of much experience. As a lover of the Art, I feel much indebted to Mr RUTHVEN for the very essential service he has rendered it.

I am,

My DEAR SIR,

Yours, very truly,

(Signed) J. WYLD."

Mr CHARLES M. WILlich,  
LITHOGRAPHIC PRESS,  
No. 6, Dartmouth Street, Westminster.

---

From the peculiar construction of the above Press, its advantage for *copperplate printing* will be found important: as the upper roller is taken down with any required force, and thrown up at every impression, the necessity of taking off the plate, as in the usual way with the common copperplate press, is completely obviated.



## Directions

FOR THE

### PATENT LITHOGRAPHIC PRESSES,

MANUFACTURED BY JOHN RUTHVEN & CO. EDINBURGH,  
PATENTEES.

---

#### *Size of Bed for Stone :*

ROYAL PRESS, 30 by 23 inches.

FOOLSCAP ditto, 20 by 16 ditto.

QUARTO ditto, 15 by  $10\frac{1}{2}$  ditto.

---

THE Portable, or Quarto and Foolscap Lithographic Presses, are worked upon a table, and placed so as to allow the winch-handle to turn beyond the edge of the table; the other handle is always retained in the upright position, till the carriage with the stone is passed under the roller.

---

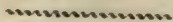
#### *Adjusting the Press to the Stone.*

The stone being placed on a piece of mill-board paper, on the carriage, put two or three pieces of clean

paper over it, and turn down the iron frame with the leather skin; pass it an inch or two under the roller, take down the upper roller by turning over the upright handle to the horizontal position: if the upper roller is then too high, or too low, the pressure is regulated by the brass and iron nuts at each end of the head of the Press; by unscrewing the brass nuts, and turning the iron ones to the *right* or *left*, the roller will be raised or lowered, and is then made fast by screwing the brass nuts; the handle must always be made to come to the horizontal position, where it will remain without requiring to be kept down by the hand, while the winch-handle passes the stone through. Before returning the carriage, raise the handle to the upright position.

To ascertain the parallelism of the rollers, two pieces of card, slipping on each other, will gauge the distance at each end of the rollers.

Before transferring, pass the stone with the paper on it, as above, several times between the rollers.



### *Directions on the Transfer Process of Lithography.*

Transferring writings, drawing, &c. from paper to the stone, being the next generally useful application of this art, the following particulars will serve to aid beginners in this point of the art; those who require



more full instructions in this art, must have recourse to the publications on Lithography.

~~~~~

Materials used in Lithography.

These being sold, prepared ready for use, it is unnecessary to instruct in their composition, as this is fully described in the works already published.

The surface of the stone must be true, smooth, and free from scratches; perfectly clean and dry, well rounded at the edges, and every care taken not to touch the surface with the hand: moisture or damp in the stone may be removed, by heating it at the fire a little before transferring. The liquid writing ink, when kept long, is apt to get too thick; in this case, add a few drops of warm water to it, which will restore it to a proper state for writing; and keep the bottle always corked, except when using it.

Ink is also prepared in cakes, and rubbed down with water as China ink.

Crayons are made for drawing on the stone in imitation of black chalk; for this purpose the surface of the stone is granulated with fine sand and water, according to the nature of the subject.

The printing ink generally supplied is of two kinds, weak and strong, which should be distributed with the roller on a marble slab, to be covered when not in use.

Writing, or Drawing, &c. on the Transfer Paper.

The transfer paper is used on the gum, or yellow side : care should be taken not to touch it with the hand whilst writing.

The pen used should be hard and elastic, neither too much nor too little ink, so as to render the writing of a uniform appearance.

When the writing is finished and perfectly dry, damp the back of the transfer paper with a sponge dipt in cold water : writings, which have been allowed to remain on the transfer paper for some days, may either be damped on the back as above, with cold water, or with very weak nitric of acid and water, which disengages the ink more freely from the paper in such cases.

In laying down the writing on the stone, care must be taken not to move it : place two or three pieces of blotting paper over it, and apply a gentle pressure, by passing it once through the rollers. The paper may then be removed, by carefully and gently raising it up by one edge, without any moisture being applied to the back of the paper on the stone. If the transfer is found not complete, on raising a part of the paper up, it may be again softened with the acidulated water and a sponge : no trace of the ink should be left on the transfer paper.

If the transfer is perfect, when dry, place the stone in a horizontal position, and pour a solution of nitric acid and water, rather stronger than the above mentioned, over the face of it. The writing, &c. will appear raised on the surface; the hand must not touch it: as soon as a sufficient quantity of the liquid has been poured over it, which is ascertained by the part of the surface appearing to dry, or the liquid to run from it, the stone may be tilted up, and the liquid run off, and cover the face with a strong gum-arabic water. The strength of the acid may be ascertained by putting one drop on a corner of the stone: if it effervesces quickly, it must be weakened with water.



Printing from the Stone.

When you wish to print, wash off the gum from the face of the stone with a sponge and clean cold water; leave the surface damp, but not wet; then roll with the printing-ink roller.

Care must be taken not to put too much ink on the roller; the stiffer the ink, the more rolling will be required. Observe to work the roller rapidly on the slab, which will prevent the roller imbibing the water from the stone.

When a transfer is put on the stone, first use the weak ink, and continue it as long as the impressions

come off clean : whenever any tendency to smut appears on the stone, or the writing, use the strong ink.— Sometimes it will be found beneficial to use a mixture of the strong and weak printing ink, or to use them alternately.

Observe to damp the surface of the stone with the sponge previous to inking, between each impression, otherwise, on passing the ink-roller over it, the stone will be soiled : the sponge should be squeezed in a clean towel to extract the water, as it must only be used in a damp state.

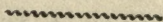
The stone must not be left without passing the ink-roller over it, and then covering the surface with a thin coating of gum water, laid on with a soft brush. If the printing ink does not adhere to the writing or drawing, take a small bit of sponge, and dip it in strong gum-water ; rub it in a little printing ink, and then rub over the drawing, &c. while the stone is wet ; allow the stone to dry, and then commence printing, after washing the surface with clean water.



To clean the Stone when the Writings, &c. run smutty.

Put in a glass phial equal parts of water, spirit of turpentine, and oil of olives : shake the mixture well until it froth ; pour it on the stone which you want to

clean, (having previously wetted it,) and rub it with a damp sponge ; the printing ink which had collected on the stone will immediately dissolve ; the whole surface will become white, without any appearance of the drawing ; but on charging it again with printing ink, the drawing will soon re-appear, as sharp and as perfect as when it was first executed ; then wash the surface clean with weak acid water ; give it a coating with gum water, and allow it to dry.

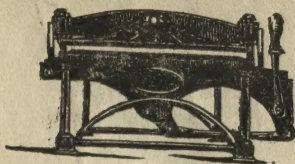


Preparing the Paper for Printing.

The paper for the impressions must be previously damped as for printing, viz. by dipping a few of the sheets into water, and laying them on a board with a few dry sheets above them; dipping a few more, and placing them over the dry, alternately ; allow them to stand a few hours, and lay a weight on for a few hours longer ; the whole may then be mixed, and again pressed for a short time. Paper may also be prepared for printing, by interleaving it in wet blotting-paper, and allowing it to remain with a weight on it for a short time. If you use the paper too wet, it may in parts refuse the impression ; if too dry, it may also refuse to take the ink.

To clean off the Writing, &c. from the Stone.

This may be effected, either with pumice-stone and water, or very fine sand and water; the surfaces of two stones may be rubbed on each other, which is the best way to preserve the level: care must always be taken to rub the surface equally down: observe to throw clean water repeatedly over the surface, after rubbing down.



JOHN RUTHVEN & CO.

Edinburgh,

Respectfully solicit attention to their Patent Presses for

LETTER-COPYING.

BEING adapted for Copying Letters, Accounts, &c. in the most perfect manner, at once, *into the Letter-Book*, which admits of Letters being carried regularly forward in the pages, and the operation is completed without further trouble than entering in the Index.

The Presses are made in the most durable manner, occupy only about a foot square, require no fixing, and are very suitable for Exportation.

J. R. & Co. have received a great many testimonials in favour of their Patent Copying-Press, from Gentlemen of the first respectability throughout the country, who are now using them, and from one of whom the following letter is prefixed :

“ MESSRS RUTHVEN & Co.

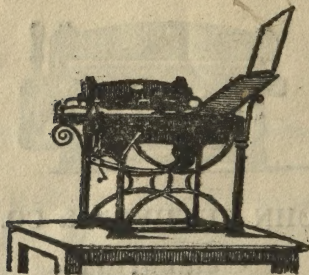
“ GENTLEMEN,

“ WE save, by your Copying-Press,
“ above £.20 \textsterling annum, and the convenience, in point
“ of dispatch, we value greatly more.

“ GIBSON & OLIPHANT,

“ *Writers to the Signet.*

“ *Edinburgh, July 28, 1820.*”



The Portable Printing Press

Is a complete Printing Press, of light and elegant construction, occupying only 18 inches square, may be worked on any table without fixing, and is altogether so simple and easily managed, as renders it capable of very great and general utility. It is also adapted for Copying Letters.

Many Country Booksellers with this small Press carry on the Printing business to a considerable extent.

Several Clergymen are now applying it to important and benevolent purposes. A few have also been sent out with Missionaries going abroad.

Many Noblemen and Gentlemen have for some years used these Portable Presses in Printing a variety of useful and interesting compositions.

The British Linen Company Bank, the Sea Insurance Company of Scotland, the Leith Marine Insurance Company, and several other Public Offices through the Country, have also adopted them.

An Engraving, with Description of RUTHVEN'S *Large Patent Printing Presses*, and a reference to the Printing Offices where they are used, may be had by applying at the

PATENT PRESS MANUFACTORY, }
16, North back of Canongate, Edinburgh. }